

1. Record Nr.	UNINA9910639894103321
Titolo	Cost-efficient Wastewater Treatment Technologies : Engineered Systems // edited by Mahmoud Nasr, Abdelazim M. Negm
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2023
ISBN	3-031-12902-4
Edizione	[1st ed. 2023.]
Descrizione fisica	1 online resource (526 pages)
Collana	The Handbook of Environmental Chemistry, , 1616-864X ; ; 118
Disciplina	354.81150006 628.3
Soggetti	Environmental chemistry Water Hydrology Bioremediation Industrial microbiology Sustainability Environmental management Environmental Chemistry Environmental Biotechnology Industrial Microbiology Environmental Management
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	Overview, Objectives, Principles, and State-of-the-Art of Engineered-Based Wastewater Treatment Technologies -- Simplified Engineered-Based Wastewater Treatment Technologies: Energy, Climate Change, and Land-Use Aspects -- Biotechnology for Green Future of Wastewater Treatment -- Environmental Impact Assessment of Wastewater Reuse -- Cavitation Based Processes for Water and Wastewater Treatment -- Wastewater Treatment Using Biochar Technology -- Adsorption: A Cost-effective Wastewater Treatment Technology for Removal of Conventional and Emerging Organic Contaminants -- Nanotechnology-enabled Multifunctional Material for Removal of Toxicants from

Wastewater -- Advanced Configurations for Efficient Membrane Bioreactors: Energy Saving Approaches -- Wastewater Treatment by Trickling Filter Technology as Low Energy Consumption Solution (Case Studies –Worldwide) -- Membrane Bioreactor for Wastewater Treatment: Current Status, Novel Configurations and Cost Analysis -- Activated Sludge Fungal Community in Wastewater Treatment Plants -- Anaerobic Treatment Systems: A Sustainable and Clean Environment with Future Hope of Renewable Energy -- Co-digestion of Fruit and Vegetable Wastes: An Opportunity to Enhance the Circular Economy of Anaerobic Digesters -- Trihalomethanes (THMs) in Wastewater: Causes and Concerns -- Degradation of Selected Xenobiotics from Wastewater by Wood-Decay Fungi -- Prospects and Potential Role of Biological Treatment of Textile Effluent to Restore Water Reservoir -- SnO<sub>2</sub>-Mixed Oxide Electrodes for Water Treatment: Role of Low Cost Active Anode -- Emerging Organic Compounds (EOCs) Removal from Water and Wastewater Using Innovative Technologies and Materials -- Intermittent Cycle Extended Aeration System (ICEAS) and its Application In Wastewater Treatment -- Sustainable and Green Management of Wastewater Under Climate Change Conditions -- Microbial Biosurfactants and their Implication Towards Wastewater Management -- Best Practice Management of Wastewater in Poland -- Emerging Technologies of Sludge Management (Drying, Incineraon, Pyrolysis, Torrefacon) -- Towards The Global Rise of Zero Liquid Discharge for Wastewater Management: The Mining Industry Case in Chile.

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#### Sommario/riassunto

This is the second of two volumes that together provide a comprehensive overview of the current sustainable and low-cost wastewater treatment technologies applied in communities that lack the financial and technical resources needed for an environmental, disease prevention and health nexus. This book reviews engineered wastewater treatment technologies and discusses their application in regard to greenhouse gas emissions, natural resource utilization, land-use, and energy and water savings. The chapters from expert contributors cover topics such as aerobic and anaerobic biological treatments, chemical treatments and precipitation, and disinfection. Readers will also learn about simplified and low-energy wastewater treatment plants, strategies for wastewater reuse, and nanotechnologies for wastewater environmental management. The feasibility regarding time and cost of implementing such technologies is also discussed in this book, and particular attention is given to the removal of conventional and emerging pollutants, toxicants, and heavy metals. Given the breadth and depth of its coverage, the book offers an invaluable source of information for researchers, students and environmental managers alike.

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